

## **REMARKS/ARGUMENTS**

Claims 37-70 are pending in this application. Claims 37-70 stand rejected. By this Amendment, claims 37, 39, 41, 46-48, 53, 58, 59, 64, and 66 have been amended. The amendments made to the claims do not alter the scope of these claims, nor have these amendments been made to define over the prior art. Rather, the amendments to the claims have been made to improve the form thereof. In light of the amendments and remarks set forth below, Applicant respectfully submits that each of the pending claims is in immediate condition for allowance.

The Examiner has objected to the preliminary amendment for adding new matter. Applicant has reviewed the amendments and, while Applicant does not believe any new matter was added by the preliminary amendment, to expedite prosecution in the present case the new matter identified by the Examiner has been cancelled.

The drawings are objected to for failing to show the electrodes passing through the capillary tubes. However, as disclosed in the present specification, the capillary tubes 8 have a radially inner cloverleaf profile 9. Profile 9 consists of an electrically conductive material that supports the capillary tube 8, and this material is especially a metal, preferably titanium. The profile 9 itself can be tapped as an electrode 10 led out at both ends. Thus, the electrode 10, or the profile 9, which is merely a continuation of the electrode 10, passes through the capillary tube. (Specification as published at par. [0050]). Further as noted by the Examiner, “the electrode 41 of Fig. 10 passes through and is physically against a given capillary tube 34.” (Office Action at p. 5, par. 8).

Further, Applicant notes that three arrangements are recited for the electrode. Specifically, the electrodes (1) pass through each of the plurality of capillary tubes, (2) is against each of the plurality of capillary tubes, and (3) passes through and is against each of the plurality of capillary tubes. There is not a negative recitation or other limiting factor such that only one of the three

arrangements may be present. In fact, option 1 does not state that the electrode only passes through the capillary without being against the capillary tube. Likewise, option 2 does not state that the electrode is against the capillary tube and does not pass through the capillary tube. Thus, by showing the electrode passing through and against each of the plurality of capillary tubes the requirement to show every claimed feature on the drawings is met. Therefore, the objection must be withdrawn.

Claims 37-70 are objected to in paragraph 6 for various informalities. Applicant has amended the claims as suggested by the Examiner. Withdrawal of the objection is therefore requested.

The Examiner rejected claims 37-70 under 35 U.S.C. § 112, first paragraph for not being enabling. Specifically, the Office Action rejected the claims because of the recitation of the electrodes passing through the capillary tubes. (Office Action, page 2, pars. 7 and 8). This contention is respectfully traversed for at least the following reasons.

The enablement requirement of § 112 is satisfied when an application describes a claimed invention in a manner that permits one of ordinary skill to practice it, without undue experimentation. (MPEP § 2164.01). Thus, the mere fact that experimentation might be required is insufficient to support an enablement rejection. Further, even complex experimentation is not necessarily undue experimentation. (MPEP § 2164.01).

Applicant respectfully submits that no experimentation is required to make and use the claimed invention. Nonetheless, even if experimentation might be required, it would not be undue. In this regard, it is important to be mindful that the question of enablement is one of predictability in view of what is known in the art. Consequently, the amount of guidance or

direction needed to satisfy the enablement requirement is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art. (MPEP § 2164.03).

The specific question of whether experimentation is “undue” is determined based on the following eight Wands factors:

1. Breadth of the claims;
2. Nature of the invention;
3. State of the prior art;
4. Level of ordinary skill in the art;
5. Predictability of the art;
6. Amount of direction provided in the specification;
7. Any working examples; and
8. Quantity of experimentation needed relative to the disclosure.

(MPEP § 2164.01(a), citing In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)). Further, a proper analysis of whether any experimentation is undue requires an analysis of all of the pertinent Wands factors. (MPEP § 2164.01(a))(emphasis added). It is improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors while ignoring one or more of the others. (Id.).

The claims are directed to a novel fuel cell. It is submitted that the level of ordinary skill in the relevant art, the scope of which is not addressed in the Office Action, is relatively high. In addition, Applicant’s FIGS. illustrate an example of the claimed invention of claim 1. Further, Applicant describes that capillary tubes 8 have a radially inner cloverleaf profile 9. Profile 9 consists of an electrically conductive material that supports the capillary tube 8, and this material is especially a metal, preferably titanium. The profile 9 itself can be tapped as an electrode 10 led out at both ends. Thus, the electrode 10, or the profile 9, which is merely a continuation of the electrode 10, passes through the capillary tube. (Specification as published at par. [0050]). Even the Examiner notes that “the electrode 41 of Fig. 10 passes through and is physically against a given capillary tube 34.” (Office Action at p. 5, par. 8). As a result, at least the following Wands factors

weigh in favor of enablement: (1) the state of the prior art, (2) the level of ordinary skill in the art, and (3) the presence of working examples.

These are not the only Wands factors weighing in favor of enablement. The present application, describes both the profile 9 and the electrode 41 passing through respective capillary tubes. Consequently, the following Wands factors also favor enablement: (1) quantity of experimentation needed relative to the disclosure, and (2) the amount of direction provided in the specification also favor enablement.

In view of the foregoing, Applicant respectfully submits that ordinarily skilled artisans would be able to make and use the claimed invention, despite any experimentation that might be required. Applicant further submits that the amount of knowledge in the state of the art as well as the predictability of the art, as well as the majority of Wands factors that weigh in favor of enablement buttress this conclusion. Therefore, the present application adequately enables the claimed invention. Applicant thus respectfully requests favorable reconsideration and withdrawal of the rejection under 35 U.S.C. § 112.

Claims 49, 50, and 59 are rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. Applicant notes that each of these claims complies with the written description requirement.

Claim 49 uses the term comprises. There are additional limitations disclosed in the specification not recited in claim 49, therefore comprises is the proper term to use. For example, the capillary tube 34 have a coiled core as an electrode 41, which is not recited in claim 49. (Specification as published at par. [0058]).

Claim 50 uses the term comprises. There are additional limitations disclosed in the specification not recited in claim 50, therefore comprises is the proper term to use. For example,

the support sheet that is covered with a lattice-like mount for a catalyst. A lattice-like mount of this type can be an expanded metal mesh, a metal mesh, a metal wire cloth, or a comparably porous material, on or in which a catalyst of crystalline structure is readily supported, which is not recited in claim 50. (Specification as published at par. [0018]).

Claim 59 uses the term comprises. There are additional limitations disclosed in the specification not recited in claim 59, therefore comprises is the proper term to use. For example, The fuel mixture of water and methanol is only one embodiment, which should not be read into or limit the claims. (Specification as published at par. [0071]).

Therefore, the rejection under 35 U.S.C. §112, first paragraph of claims 49, 50, and 59 must be withdrawn.

The Examiner rejected claims 37-70 under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In accordance with the Examiner's remarks, and to more clearly define the invention, Applicant has amended the claims. As a result, Applicant requests that the Examiner withdraw the rejection under 35 U.S.C. § 112.

Applicant has responded to all of the rejections and objections recited in the Office Action. Reconsideration and a Notice of Allowance for all of the pending claims are therefore respectfully requested. If the Examiner believes an interview would be of assistance, the Examiner is encouraged to contact the undersigned at the number listed below.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,  
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Dated: February 4, 2011